CLAIMS

1. A fiber-optic interferometric rotation speed sensor device comprising a laser source (2, 15) combined with an optical fiber (9, 14) and with a device for making the beam from the laser source interfere with the beam coming from the optical fiber, characterized in that the laser source is an optical cavity having a gain lasing medium (6, 16) and in that it includes, along the path of the beam output by the laser cavity, a beam splitter device (7, 13) associated with a reflecting device (8, 13), the beam (2d, R) split off from the beam (2c, L) output by the laser cavity being sent into one of the ends of the optical fiber, the other end of which is directed toward the gain lasing medium, the splitter device being followed by a detector (10, 17).

2. The device as claimed in claim 1, characterized in that the reflecting device associated with the splitter is different from the latter and is a mirror (8).

3. The device as claimed in claim 1, characterized in that the splitter is a diffraction grating (13) operating both in reflection and in transmission, thus acting as reflecting device.

4. The device as claimed in claim 2, characterized in that the position of said mirror is adjusted so as to obtain a $\pi/4$ phase shift between the beam reflected by said mirror and the beam coming from the optical fiber.

5. The device as claimed in claim 3, characterized in that the grating is an index grating.

6. The device as claimed in claim 3, characterized in that the grating is a relief grating.

7. The device as claimed in claim 3, characterized in that the grating is a grating resulting from the multiplexing of an index grating and of a relief grating.

8. The device as claimed in one of the preceding claims, characterized in that the optical fiber is a multimode fiber.

9. The device as claimed in one of the preceding claims, characterized in that two quarter-wave plates (18, 20) and a polarizer (21) are placed in the laser cavity.

10. The device as claimed in claim 9, characterized in that the optical fiber is a non-polarization-maintaining fiber.